

## CLAIMS

What is claimed is:

1. A method for generating a message integrity code in a wireless local area network operating under an IEEE 802.11 standard, comprising:  
  
suppressing a sequence number input to a message integrity code algorithm, and  
  
calculating a message integrity code based in part on a fragment number.
2. A method according to Claim 1, wherein the sequence number input is set to all zeros.
3. A method according to Claim 1, further comprising assigning a sequence number to each message and assigning packet numbers to message fragments in the order of fragmentation.
4. A method according to Claim 3, further comprising transmitting the message to a receiving station.
5. A method according to Claim 4, further comprising, upon receipt of a plurality of messages having the same sequence number at a receiving station, checking the received packet numbers for a complete sequence.

6. A method according to Claim 5, further comprising rejecting a message if it does not have a complete sequence of packet numbers.

7. In a wireless local area network message protocol in which each data unit is assigned a sequence number and a fragment number, a method of generating a message integrity code for a data unit comprising using the fragment number, but not the sequence control number as an input to a message integrity code algorithm.

8 The method of Claim 7, wherein the message integrity code algorithm comprises an input receiving the sequence number, further comprising generating the message integrity code before a sequence number has been assigned to a packet.

9. The method of Claim 7, wherein the message integrity code algorithm comprises an input receiving the sequence number and the input is set to all zeros.

10. The method of Claim 7, further comprising assigning a packet number to each message, receiving messages at a receiving station and checking packet numbers of received message for a complete sequence of packet numbers.

11. The method of Claim 10, further comprising rejecting messages which do not have a complete sequence of packet numbers.

12. A method for providing security for messages transmitted over a wireless local area network, comprising:

assigning sequence numbers to all messages in the order of transmission and including the sequence number in each transmitted message,

assigning fragment numbers to all messages in the order of fragmentation of each message and including the fragment number in each transmitted message, and

calculating a transmitted message integrity code based in part on the fragment number for each transmitted message and including the transmitted message integrity code in each transmitted message.

13. A method according to Claim 12, further comprising:

encrypting the transmitted message integrity code before transmitting each message.

14. A method according to Claim 12, further comprising:

upon receipt of a message, calculating a received message integrity code based in part on the fragment number for the received message.

15. A method according to Claim 14, further comprising:

comparing the transmitted message integrity code to the received message integrity code.

16. A method according to Claim 15, further comprising:  
rejecting the received message if the transmitted message integrity code does not match the received message integrity code.
17. A method according to Claim 12, further comprising:  
receiving a plurality of messages having the same sequence number,  
checking the packet numbers of each of the plurality of messages to determine whether the plurality of messages include a complete sequence of packet numbers.
18. A method according to Claim 17, further comprising:  
if the plurality of messages has an incomplete sequence of packet numbers,  
rejecting the messages identified by the sequence number.
19. A wireless network station comprising a processor programmed to:  
suppress a sequence number input to a message integrity code algorithm, and  
calculate a message integrity code based in part on a fragment number.
20. A wireless network station according to Claim 19 wherein the processor is programmed to:  
transmit a message including the message integrity code over a wireless local area network.

21. A wireless network station according to Claim 19 wherein the processor is programmed to:

receive a message including a message integrity code over a wireless local area network,

suppress a sequence number input to a message integrity code algorithm, and

calculate a message integrity code for the received message based in part on a fragment number.

22. A wireless network station according to Claim 21 wherein the processor is programmed to:

compare the message integrity code of the received message to the message integrity code calculated for the received message, and

if the message integrity code of the received message does not match the message integrity code calculated for the received message, reject the received message.

23. A wireless network station according to Claim 21 wherein the processor is programmed to:

upon receipt of a plurality of messages having a common sequence number, check packet numbers of the messages for a complete sequence, and

if the packet number sequence is not complete, reject all of the received with the common sequence number.

24 . A wireless network station comprising a processor programmed to:

- assign sequence numbers to all messages in the order of transmission and include the sequence number in each transmitted message,
- assign fragment numbers to all messages in the order of fragmentation of each message and include the fragment number in each transmitted message, and
- calculate a transmitted message integrity code based in part on the fragment number for each transmitted message and include the transmitted message integrity code in each transmitted message.

25. A wireless network station according to Claim 24 wherein the processor is programmed to:

- upon receipt of a message, calculate a received message integrity code based in part on the fragment number for the received message,

- compare the transmitted message integrity code to the received message integrity code, and

- reject the received message if the transmitted message integrity code does not match the received message integrity code.

26. A wireless network station according to Claim 24 wherein the processor is programmed to:

upon receiving a plurality of messages having the same sequence number, check the packet numbers of each of the plurality of messages to determine whether the plurality of messages include a complete sequence of packet numbers, and

if the plurality of messages has an incomplete sequence of packet numbers, reject the messages identified by the sequence number.